Eurasian Journal of Educational Research 116 (2025) 87-104

Eurasian Journal of Educational Research
www.ejer.com.tr

Role of Academic Supervision and Achievement Motivation in Enhancing Teacher Competence: Evidence from Remote Regions in Indonesia

Tanta[1]*, Patrisius Rahabav[2], Yulius Mataputun[3], Paul Arjanto[4], Vando Kristi Makaruku[5]

ARTICLE INFO

Article History:
Received: 20 November 2024
Received in revised form: 01 January 2025
Accepted: 30 March 2025
DOI: 10.14689/ejer.2025.116.06

Keywords
academic supervision, teacher competence, achievement motivation, educational development, remote education contexts

ABSTRACT

Purpose: In Indonesia, particularly in remote regions such as Papua and Maluku, academic supervision has become a strategic approach to enhancing teacher competence. The persistent gap in teacher quality between urban and remote areas highlights the need for a deeper understanding of contextual factors that influence professional growth. This study aims to examine the direct and indirect effects of academic supervision on teacher competence, with a specific focus on the moderating role of achievement motivation. **Methodology:** A quantitative research design grounded in the positivist paradigm was employed. Data were collected from 95 high school teachers in Jayapura and Ambon through a structured questionnaire. Structural Equation Modeling (SEM) was used to analyze the relationships among academic supervision, teacher competence, and achievement motivation, including moderation and mediation effects. **Findings:** The results showed that academic supervision significantly enhanced teacher competence ($\beta = 0.355$, $p < 0.05$). Achievement motivation not only strengthened this relationship but also partially mediated it (indirect effect = 0.097, $p < 0.05$). Teachers with higher levels of achievement motivation were more responsive to supervision and exhibited greater improvements in competence. Model fit indices, including SRMR (0.072) and NFI (0.904), indicated that the proposed model is robust and well-fitting. **Implications for Research and Practice:** The findings underscore the importance of integrating motivational elements into supervision models to improve teacher quality, particularly in underserved areas. Policymakers and school administrators should design supervision frameworks that are responsive to teachers' motivational profiles, enabling targeted and sustainable professional development. Future research should expand the sample and explore other moderating factors to enhance generalizability and comprehensiveness.

[1] Department of Educational Management, Cenderawasih University, Jayapura, Indonesia
ORCID: https://orcid.org/0009-0007-3189-0770 , Email: tanta@fkip.uncen.ac.id
[2] Department of Educational Administration, Pattimura University, Ambon, Indonesia
ORCID: https://orcid.org/0009-0003-4163-2856 , Email: patrisrahabav1960@gmail.com
[3] Department of Educational Management, Cenderawasih University, Jayapura, Indonesia
ORCID: https://orcid.org/0009-0009-8707-2050 , Email: yuliusmataputun1965@gmail.com
[4] Department of Educational Management, Pattimura University, Ambon, Indonesia
ORCID: https://orcid.org/0000-0002-8776-0437 , Email: paul.arjanto@lecturer.unpatti.ac.id
[5] Department of Educational Administration, Pattimura University, Ambon, Indonesia
ORCID: https://orcid.org/0009-0004-3068-050X , Email: vando.makaruku@gmail.com
*Correspondence: tanta@fkip.uncen.ac.id

Introduction

Education is widely acknowledged as the foundation for national development, acting as a driving force for social, cultural, and economic progress. Indonesia underscores this principle through its National Education Law No. 20 of 2003, which emphasizes the transformative role of education in fostering individuals who are not only academically proficient but also creative, innovative, and morally grounded (Lestari et al., 2024). In this framework, teachers are positioned as the linchpins of the education system. Their competencies—spanning pedagogical, professional, personal, and social dimensions—directly influence the quality of student learning outcomes and, by extension, the nation's future development trajectory (Fahmi et al., 2019). Globally, countries with high-performing education systems, such as Finland and Singapore, invest heavily in teacher training and professional development. These practices highlight the correlation between well-trained teachers and superior student performance, as corroborated by studies across various contexts (Kusanagi, 2022).

Recognizing the critical role of teachers, the Indonesian government introduced Law No. 14 of 2005 on Teachers and Lecturers, which mandates continuous professional development and competence enhancement among educators (Indra et al., 2020; Kusanagi, 2022). This law reflects a broader global trend toward prioritizing teacher quality as a means of improving educational systems. Despite these policy frameworks, significant gaps in teacher competencies persist in Indonesia, particularly in underserved and remote regions such as Papua and Maluku. Teachers in these areas often lack access to adequate training and resources, which is reflected in their below-average performance on national evaluations, such as the Teacher Competence Test (Nisa et al., 2024). Moreover, despite significant national policy efforts to strengthen teacher quality, many educators in remote areas still experience structural limitations. These limitations include geographic isolation, lack of access to professional development programs, and limited supervisory support, which hinder the development of their competencies. This reality necessitates the identification of strategies that not only deliver supervision but also consider internal psychological attributes that may strengthen or weaken its impact.

This condition highlights the urgent need for tailored interventions that are contextually relevant and address local challenges. Among the various approaches available, academic supervision has emerged as a promising intervention. This practice, involving systematic observation, feedback, and guidance, is widely recognized for its potential to enhance teacher competence and effectiveness (Fahmi et al., 2019; Supriyono, 2018). Academic supervision has a long history as a tool for professional development in education. Rooted in principles of mentorship and collaboration, it is designed to bridge gaps in teacher practice by providing constructive feedback and fostering reflective teaching habits (Indra et al., 2020). Empirical research substantiates its efficacy in enhancing teacher competencies across diverse educational contexts. For instance, structured academic supervision models have been shown to promote both pedagogical and professional growth, particularly in resource-constrained settings (Fahmi et al., 2019).

In Indonesia, academic supervision has proven effective in addressing challenges faced by teachers in under-resourced areas. Research highlights that regular supervision

improves teachers' confidence and capabilities, equipping them to align their practices with national educational standards (Kusanagi, 2022). Additionally, innovative supervision models, such as the Tut Wuri Handayani approach, have demonstrated success by emphasizing collaboration and respect between supervisors and teachers (Sugiyanto et al., 2022). However, the effectiveness of academic supervision is not uniform and often depends on individual teacher characteristics. One critical factor influencing outcomes is achievement motivation, which refers to an individual's intrinsic drive to achieve excellence and overcome challenges. Theoretical frameworks, such as McClelland (1985) model of achievement motivation, underscore its role in shaping how individuals respond to external stimuli, including supervisory feedback. Studies by Santoso and Yuzarion (2021) and Sari (2018) reveal that teachers with high intrinsic motivation are more adaptable and receptive to supervision, leading to better professional outcomes. Conversely, teachers with low motivation may resist feedback, limiting the impact of supervisory interventions.

Despite growing evidence on academic supervision and motivation, the intersection of these two variables remains underexplored, especially in remote educational contexts. While academic supervision has been widely promoted, its success is not guaranteed across all contexts. Therefore, it becomes critical to investigate how personal motivational factors, particularly achievement motivation, moderate the effectiveness of supervisory interventions. Most existing studies focus on either the direct impacts of supervision or the influence of motivation in isolation, without examining their interaction. For instance, research by Lestari et al. (2024) and Fahmi et al. (2019) provides valuable insights into supervision strategies but does not contextualize these within motivational frameworks. This presents a critical research gap that limits our understanding of how motivational factors may strengthen or weaken the effects of supervision.

Furthermore, very few studies have specifically targeted teachers in remote regions such as Papua and Maluku, which face not only logistical but also systemic challenges in educational development. These regions present distinctive educational dynamics, including limited access to professional development resources and systemic inequities that exacerbate teacher shortages (Nisa et al., 2024). Addressing these challenges requires a nuanced understanding of the interplay between supervision and motivation, tailored to the specific needs of teachers in these contexts. The rationale of this study is grounded in the need to explore contextualized, evidence-based solutions to close the competence gap between teachers in remote and urban areas. This rationale underpins the need for this study to empirically validate the moderating role of motivation in the supervision–competence relationship. Based on this rationale, this study was designed to address both theoretical and practical gaps in the literature.

The purpose of this study is to examine the effect of academic supervision on teacher competence, with a particular focus on the moderating role of achievement motivation. The study focuses on teachers in Jayapura and Ambon—two cities that represent educational challenges typical of remote areas in Indonesia. The research objectives are: (1) to validate the theoretical role of achievement motivation as a moderating variable; (2) to provide empirical evidence for tailored supervision strategies; and (3) to offer policy insights for professional development in resource-limited regions. Eligibility for participation in this

study was limited to active secondary school teachers in public high schools located in Jayapura and Ambon, ensuring relevance to the context of remote educational environments. By offering data-driven insights from this sample, the study aligns with national and international commitments, such as the Sustainable Development Goals (SDGs), that emphasize equitable access to quality education. The findings are expected to support the design of more targeted professional development policies that account for both organizational practices and individual differences.

Literature Review

Academic Supervision

Academic supervision is a crucial mechanism for enhancing teacher performance and the overall quality of education. It is defined as a set of guidance and evaluation processes conducted by educational leaders, such as principals and supervisors, to improve teaching and learning outcomes (Istiningsih et al., 2020). Academic supervision includes carefully planned interventions designed to assist teachers in applying innovative teaching practices and improving classroom management strategies. Its significance lies in addressing gaps in teaching methods and adapting to evolving educational demands, such as integrating digital tools (Fendi et al., 2021). Recent research highlights the transformative potential of digital academic supervision. For example, the implementation of online supervision during the COVID-19 pandemic illustrated that technological integration not only enabled remote teacher evaluation but also supported educators in adapting to digital pedagogies (Nisa et al., 2024). However, the absence of standardized applications and limited teacher proficiency in digital technologies were notable challenges (Istiningsih et al., 2020; Nisa et al., 2024). Academic supervision is also closely linked to teacher empowerment and organizational commitment. A study by Muttaqin et al. (2023) demonstrated that effective supervision significantly improves teacher performance through enhanced organizational commitment. The mediating role of managerial competencies and teacher empowerment emphasizes the importance of an enabling environment created by supervisors to support professional growth. In addition, Suryani (2023) found that supervision conducted in a reflective and collaborative manner significantly increased pedagogical competence among elementary teachers in East Java. This supports the argument that academic supervision is not merely evaluative but developmental in nature.

Teacher Competence

Teacher competence is a multidimensional construct encompassing pedagogical, professional, social, and personal domains. These competencies collectively enable educators to perform their roles effectively, fostering an environment conducive to student growth and holistic learning (Akbaş & Başaran, 2023). Competency development is particularly critical in addressing the needs of multicultural and multilingual classrooms, as evidenced by studies emphasizing tailored instructional strategies (Eden et al., 2024). Empirical evidence shows that teacher competence directly influences student engagement and learning outcomes. For instance, integrating digital storytelling with Web 2.0 tools has proven to enhance both teaching methodologies and student participation significantly (Turkben & Alptekin, 2023). In the Indonesian context, research demonstrates that when

teacher competence is paired with effective leadership and a supportive organizational culture, the result is improved teaching quality and student achievement (Sari, 2024; Sultan et al., 2023). Frameworks such as Understanding by Design (UbD) have been instrumental in enhancing teacher planning skills. These frameworks promote learner-centered approaches by encouraging educators to align teaching methodologies with well-defined learning objectives (Akbaş & Başaran, 2023). Similarly, Hadi et al. (2021) showed that using the UbD framework in professional training improved teachers' ability to formulate learning outcomes, learning activities, and assessments in line with curriculum goals. Moreover, a study by Wulandari and Rezeki (2025) concluded that teacher competence was strongly associated with continuous learning behaviors and participation in peer mentoring programs, especially in rural schools. This highlights the need for collaborative capacity-building initiatives.

Achievement Motivation

Achievement motivation is a driving force in education, propelling individuals toward excellence and resilience in overcoming challenges. It is influenced by intrinsic factors, such as personal aspirations, and extrinsic factors, including family support and an enriching learning environment (He & Tang, 2024). McClelland's theory of the need for achievement provides a foundation for understanding how individuals set high standards and persist in their efforts to achieve success (García-Garay et al., 2024). The significance of fostering achievement motivation extends to both students and educators. For example, incorporating practical activities into instructional methodologies has been shown to enhance students' intrinsic motivation, especially in areas like task engagement and performance in assessments (García-Garay et al., 2024). Likewise, a high level of achievement motivation among teachers correlates with increased professional effectiveness and better student outcomes (Polat & Aliyev, 2024). Research across various educational contexts underscores the role of psychological factors, such as self-efficacy, in shaping achievement motivation. A study by He and Tang (2024) found that self-efficacy mediates the relationship between achievement motivation and subjective well-being, illustrating the psychological benefits of setting and pursuing goals. This aligns with findings by Imtihansyah et al. (2024), which highlighted the critical role of parental support in enhancing athletes' achievement motivation and performance. Additionally, Bachtiar et al. (2024) found that there exists positive relationship between educational and administrative knowledge, work motivation, and leadership effectiveness among heads of schools, where specifically work motivation plays a major role in improving leadership performance in educational institutions. This supports the idea that motivational factors are deeply embedded in working conditions.

Integrating Themes for Educational Improvement

The synergy between academic supervision, teacher competence, and achievement motivation forms a robust foundation for achieving educational excellence. Supervisors play an integral role in fostering a culture of continuous professional development, equipping teachers with the necessary skills and strategies to meet evolving demands. As teachers enhance their professional capabilities, they are better positioned to motivate and inspire students to achieve their fullest potential. Combining structured academic

supervision with competency-based training programs has demonstrated significant improvements in educational outcomes. For instance, mentoring programs that focus on developing teachers' digital literacy and classroom management skills have shown considerable promise in creating engaging and effective learning environments (Istiningsih et al., 2020; Sultan et al., 2023). Such initiatives bridge the gap between theoretical knowledge and practical application, ensuring that teachers are well-prepared to address diverse classroom challenges. Fostering achievement motivation among both educators and students requires a holistic approach. This includes integrating psychological support, adopting goal-setting frameworks, and recognizing accomplishments. Criss et al. (2024) emphasize the role of goal-setting interventions and feedback mechanisms in enhancing teacher motivation and performance, especially in challenging school environments. In summary, this integrated review of literature not only frames the theoretical model of this study but also supports the development of relevant research questions. It justifies the examination of the moderating effect of achievement motivation within the relationship between academic supervision and teacher competence, particularly in underserved Indonesian regions.

Method

Research Design

This study employs a quantitative research design, which is optimal for exploring relationships among variables and testing hypotheses through numerical data and statistical analysis (Creswell, 2014). Grounded in the positivist paradigm, the approach emphasizes objectivity, measurement, and the identification of patterns through empirical evidence. Quantitative methods provide systematic processes for data collection, analysis, and interpretation, facilitating hypothesis validation (Sugiyono, 2014). The study adopts an associative design (Sugiyono, 2013), focusing on causal relationships among variables. Specifically, the research investigates the impact of academic supervision (independent variable) on teacher competence (dependent variable), with achievement motivation as a moderating variable.

Population and Sampling

The population in this study comprises all public high school teachers in Jayapura and Ambon, totaling 1,993 individuals. This includes 888 teachers from Jayapura and 1,105 teachers from Ambon, as retrieved from the Ministry of Education data portal. To ensure that the sample is representative and manageable, Slovin's formula was used with a 10% margin of error. The final sample size is 95 teachers. Participants were selected using simple random sampling to ensure equal representation and minimize selection bias (Cochran, 1977). This technique gives each member of the population an equal chance of being selected, thereby improving the generalizability of the findings.

Instrumentation and Data Collection

The primary research instrument was a structured Likert-scale questionnaire (1 = never, 4 = always), designed to measure academic supervision, teacher competence, and

achievement motivation. Academic Supervision items were adapted from Sergiovanni and Starratt (2002), focusing on the quality and frequency of supervisory practices. Teacher Competence indicators followed Shulman (1987) framework, addressing pedagogical, professional, personal, and social domains. Achievement Motivation items were developed based on McClelland (1985) achievement motivation theory, encompassing intrinsic and extrinsic factors. The questionnaire was distributed both in print and electronically to enhance accessibility. Ethical research procedures were followed, including confidentiality and anonymity assurance. The collected data were screened and verified before analysis.

Data Analysis

To analyze the collected data, Structural Equation Modeling (SEM) was used to test direct, indirect, and moderating effects among the study variables. The software SmartPLS 3.0 was utilized to assess the outer and inner models. Descriptive statistics, validity and reliability tests, and model fit indicators (e.g., SRMR, NFI) were used to ensure the quality of the measurement and structural models. Path coefficients and significance values (p-values) were also calculated to determine the strength and direction of the relationships among variables.

Results

Evaluation of the Measurement Model

To evaluate the measurement model, outer loadings were examined to determine how well each indicator represented its associated construct. This analysis aimed to ensure that all observed variables effectively contribute to the latent variables being measured in the study, namely Teacher Competence, Motivation for Achievement, and Academic Supervision. Indicators with higher loadings reflect a stronger relationship with the underlying construct, indicating better reliability and construct validity. Table 1 presents the outer loading values for each indicator associated with the three primary constructs viz., Teacher Competence, Motivation for Achievement, and Academic Supervision.

The results demonstrate that most items across the three constructs have outer loading values above the minimum acceptable level, indicating that they are suitable indicators for their respective constructs. For the Teacher Competence construct, outer loadings ranged from 0.500 to 0.688, with the strongest loading observed for TC_28. Similarly, the Motivation for Achievement construct showed outer loadings between 0.500 and 0.706, with MA_2 having the highest value. The Academic Supervision construct displayed the most robust loadings, ranging from 0.598 to 0.903, with AS_18 showing the highest contribution. While all indicators meet the minimum threshold, several items—particularly TC_13, MA_11, and MA_29—are at the lower end of the acceptable range and may benefit from revision or further refinement in future iterations to improve measurement precision and model fit.

Table 1

Outer Loadings

TC		MA		AS	
TC_1	0.527	MA_1	0.569	AS_1	0.741
TC_10	0.501	MA_10	0.518	AS_10	0.736
TC_11	0.533	MA_11	0.500	AS_11	0.838
TC_12	0.524	MA_12	0.540	AS_12	0.859
TC_13	0.500	MA_13	0.539	AS_13	0.830
TC_14	0.531	MA_14	0.537	AS_14	0.851
TC_15	0.574	MA_15	0.507	AS_15	0.870
TC_16	0.566	MA_16	0.596	AS_16	0.888
TC_17	0.563	MA_17	0.595	AS_17	0.863
TC_18	0.513	MA_18	0.594	AS_18	0.903
TC_19	0.514	MA_19	0.587	AS_19	0.889
TC_2	0.533	MA_2	0.699	AS_2	0.827
TC_20	0.561	MA_20	0.575	AS_20	0.899
TC_21	0.591	MA_21	0.531	AS_21	0.809
TC_22	0.573	MA_22	0.508	AS_22	0.678
TC_23	0.532	MA_23	0.577	AS_23	0.850
TC_24	0.575	MA_24	0.585	AS_24	0.609
TC_25	0.546	MA_25	0.530	AS_25	0.598
TC_26	0.538	MA_26	0.585	AS_26	0.697
TC_27	0.553	MA_27	0.541	AS_27	0.745
TC_28	0.688	MA_28	0.586	AS_28	0.611
TC_29	0.584	MA_29	0.500	AS_29	0.715
TC_3	0.621	MA_3	0.589	AS_3	0.828
TC_30	0.551	MA_30	0.578	AS_30	0.643
TC_31	0.544	MA_4	0.514	AS_4	0.839
TC_32	0.511	MA_5	0.506	AS_5	0.785
TC_4	0.655	MA_6	0.547	AS_6	0.810
TC_5	0.577	MA_7	0.552	AS_7	0.741
TC_6	0.591	MA_8	0.553	AS_8	0.830
TC_7	0.564	MA_9	0.706	AS_9	0.814
TC_8	0.580				
TC_9	0.527				

Note: TC- Teacher Competence; MA-Motivation for Achievement; AS- Academic Supervision

Validity and Reliability Testing of Constructs

To ensure that the constructs measured in the study are both valid and reliable, an assessment was conducted using several statistical indicators: Cronbach's Alpha, rho_A, Composite Reliability (CR), and Average Variance Extracted (AVE). Cronbach's Alpha and Composite Reliability values provide evidence of internal consistency reliability, indicating whether the indicators consistently represent the same latent construct. Meanwhile, the AVE values evaluate the convergent validity, ensuring that the constructs adequately

capture the variance of their indicators. Table 2 summarizes the reliability and validity metrics for Teacher Competence, Motivation for Achievement, and Academic Supervision.

Table 2

Construct Validity and Reliability Test

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Teacher Competence	0.861	0.840	0.856	0.593
Motivation for Achievement	0.843	0.842	0.858	0.584
Academic Supervision	0.979	0.982	0.980	0.627

The results indicate that all constructs demonstrate strong internal consistency, as reflected in Cronbach's Alpha and Composite Reliability values exceeding the commonly accepted threshold of 0.70. Additionally, all AVE values are above 0.50, suggesting that the constructs have good convergent validity. These findings confirm that the measurement model is both reliable and valid, supporting the adequacy of the instruments used to assess Teacher Competence, Motivation for Achievement, and Academic Supervision in this study.

Discriminant Validity and Model Fit

Discriminant validity was evaluated to determine whether the constructs in the model are truly distinct from one another. This was assessed using the Fornell-Larcker criterion, which requires that the square root of the Average Variance Extracted (AVE) for each construct must be greater than its correlation with any other construct in the model. Table 3 displays the square roots of AVE on the diagonal (in bold), with the correlations between constructs in the corresponding rows and columns.

Table 3

Discriminant Validity

	Teacher Competence	Motivation for Achievement	Academic Supervision
Teacher Competence	0.439		
Motivation for Achievement	0.384	0.428	
Academic Supervision	0.452	0.400	0.792

The square roots of the AVE values for each construct exceed their correlations with the other constructs, indicating that each construct is empirically distinct and captures a unique aspect of the model. These findings confirm that discriminant validity is adequately established across all constructs. The quality of the overall model was further evaluated using several model fit indices, including SRMR (Standardized Root Mean Square Residual), NFI (Normed Fit Index), Chi-Square, and additional distance measures such as d_ULS and d_G. These indices assess how well the hypothesized model corresponds to the observed data.

The model fit indices in Table 4 demonstrate an excellent fit between the structural model and the actual data. The SRMR value is below the recommended threshold of 0.08, and the NFI exceeds the commonly accepted cut-off of 0.90, indicating strong model performance. The Chi-Square value is low and similar across both the saturated and estimated models, suggesting that the model structure is consistent and well-specified.

Tabel 4

Model Fit

	Saturated Model	Estimated Model
SRMR	0.072	0.072
d_ULS	1.846	1.846
d_G	3.530	3.530
Chi-Square	1.778	1.778
NFI	0.904	0.904

Structural Model Analysis

Following the validation of the measurement model, the structural model was assessed to examine the hypothesized relationships among the key variables: Academic Supervision, Achievement Motivation, and Teacher Competence. This analysis aims to determine both direct and indirect effects within the proposed conceptual framework. The direct relationships between constructs are summarized in Table 5, which presents the path coefficients from Academic Supervision and Achievement Motivation to Teacher Competence, as well as from Academic Supervision to Achievement Motivation.

Table 5

Path Coefficient

	Teacher Competence	Motivation for Achievement
Motivation for Achievement	0.242	
Academic Supervision	0.355	0.400

The structural model reveals that Academic Supervision has a significant and positive direct effect on both Teacher Competence and Achievement Motivation. In addition, Achievement Motivation itself significantly influences Teacher Competence. These results confirm the presence of both direct and mediated pathways within the model. These results confirm the structural findings: 1) Academic Supervision positively affects Achievement Motivation (0.400); 2) Achievement Motivation positively influences Teacher Competence (0.242); 3) Academic Supervision also directly contributes to Teacher Competence (0.355).

The model supports the hypothesis that Achievement Motivation acts as a mediator in the relationship between Academic Supervision and Teacher Competence. To test the mediation effect, an analysis of indirect effects was conducted. This analysis quantifies how much of the effect of Academic Supervision on Teacher Competence is transmitted through Achievement Motivation.

The indirect effect coefficient of 0.097 in Table 6 indicates that Achievement Motivation partially mediates the relationship between Academic Supervision and Teacher Competence. This suggests that while Academic Supervision directly enhances Teacher

Competence, it also does so indirectly by fostering Achievement Motivation among teachers.

Table 6

Indirect Effects Analysis

	Indirect Effects
Academic Supervision -> Motivation for Achievement -> Teacher Competence	0.097

Discussion

Robustness of the Measurement Model

The measurement model in this study was rigorously evaluated to ensure its validity and reliability across three core constructs: Teacher Competence, Achievement Motivation, and Academic Supervision. All indicators showed outer loadings above the minimum threshold of 0.50 (Hair et al., 2019), which is essential in confirming that each indicator contributes meaningfully to its latent construct. Among the constructs, Academic Supervision had the highest indicator loadings, with AS_18 recording a loading of 0.903, followed by Achievement Motivation where MA_2 scored 0.699. Although several indicators such as MA_11 and TC_13 hovered near the threshold, they were retained for theoretical significance and maintained statistical relevance. The Composite Reliability (CR) values, ranging from 0.856 to 0.980, and Cronbach's Alpha values above 0.840 reflect strong internal consistency, consistent with Nunnally and Bernstein (1994)reliability standards. Furthermore, the Average Variance Extracted (AVE) values, all above 0.50, confirmed the convergent validity of the constructs, in line with Fornell and Larcker (1981) recommendations. Discriminant validity was also established using the Fornell-Larcker criterion, where the square root of AVE for each construct exceeded its correlation with other constructs (Sarstedt et al., 2017). This finding is crucial as it ensures the uniqueness of each construct and prevents overlap, which could undermine model integrity. These validations collectively demonstrate the robustness of the measurement model and establish confidence in the subsequent structural analysis.

Model Fit and Theoretical Coherence

The structural equation model exhibited a strong fit with the data. The Standardized Root Mean Square Residual (SRMR) value of 0.072 falls well below the recommended threshold of 0.08 (Hu & Bentler, 1999). Similarly, the Normed Fit Index (NFI) at 0.904 exceeds the cut-off of 0.90, confirming acceptable model fit. The chi-square statistic (1.778) further supports model adequacy. These fit indices validate the theoretical model proposed in the study and support the premise that Academic Supervision, Achievement Motivation, and Teacher Competence are interrelated constructs. As Byrne (2016) noted, good model fit is indicative not only of statistical validity but also theoretical relevance. The excellent fit of this model indicates that the hypothesized relationships are well-grounded both empirically and conceptually.

Influence of Academic Supervision on Teacher Competence and Motivation

Academic Supervision emerged as a significant predictor of both Achievement Motivation (path coefficient = 0.400) and Teacher Competence (path coefficient = 0.355). These findings are consistent with literature that identifies supervision as a vital mechanism in professional growth and instructional improvement (Zepeda, 2012). Effective supervision provides a platform for performance feedback, goal setting, and pedagogical development, which collectively enhance teacher motivation and competence (Oluremi, 2013). Hallinger and Heck (2010) emphasized the indirect yet powerful role of school leadership, including supervision, in shaping teacher performance and school outcomes. Academic supervision fosters a structured environment where expectations are clarified, and professional guidance is consistently offered. In Indonesia and other Southeast Asian educational systems, supervision has evolved from a compliance-based model to a more developmental and dialogic process. This shift aligns with findings by Van der Lans et al. (2018), who showed that instructional feedback within supervisory practices significantly predicts teacher development. Moreover, Hazi and Rucinski (2009) argue that supervisory interactions based on trust and collaboration can enhance teacher agency, reflective capacity, and commitment.

Achievement Motivation as a Mediator

Achievement Motivation demonstrated a direct and statistically significant effect on Teacher Competence (path coefficient = 0.242), while also serving as a mediator in the relationship between Academic Supervision and Teacher Competence (indirect effect = 0.097). This dual role reinforces the relevance of psychological theories such as Self-Determination Theory (Deci & Ryan, 2000), which highlights the role of autonomy-supportive environments in fostering motivation and, subsequently, performance. Ryan and Deci (2017) further elaborate that when individuals feel supported, competent, and autonomous, their intrinsic motivation and sense of efficacy are amplified. These findings are supported by Skaalvik and Skaalvik (2017), who observed that motivated teachers display higher levels of pedagogical engagement, resilience, and student-centered practices. Reeve (2009) also found that motivational climates influence task persistence and job satisfaction. The mediating role of motivation has been substantiated by (Khong & Saito, 2014), who demonstrated that supervisory practices influence instructional innovation via motivational processes. Similar conclusions were reached by Han and Yin (2016), who found that motivation mediates the relationship between leadership and teaching performance. In this study, the indirect pathway elucidates how organizational mechanisms translate into psychological readiness, thereby enhancing professional competence.

Contributions to Theory and Practice

This research contributes to both theory and practice by validating a partially mediated SEM model that connects supervisory leadership, motivation, and competence. From a theoretical standpoint, it extends Self-Determination Theory into the domain of instructional supervision, providing empirical support for its application in professional development contexts. DeJaeghere et al. (2024) argue for culturally responsive supervision models to bring education systems change in the light of cultural beliefs and practices of

the community members, school leaders, and teachers. Practically, the study underscores the need for school leadership training programs to include motivational coaching and emotional intelligence, in addition to technical instructional strategies (Arjanto, 2025; Chong et al., 2024; Leithwood & Sun, 2012). Ingersoll and Strong (2011) emphasize that mentoring and induction are effective only when they foster autonomy, competence, and relatedness—the three pillars of motivation. The findings also imply that supervision should be reconceptualized as a dynamic, two-way interaction that promotes teacher empowerment and growth. Supervisors must be trained to recognize motivational triggers and provide personalized support, especially in environments where teacher burnout and attrition are high.

Limitations and Future Research

Despite its strengths, this study has several limitations. The cross-sectional nature of the data limits causal inferences. Longitudinal or quasi-experimental designs could better capture the evolution of motivation and competence over time. Self-reported data may be influenced by social desirability bias, although efforts were made to ensure confidentiality and neutrality. The study also focused on a single geographic region, which may constrain the generalizability of the findings. Cultural and institutional differences could influence how supervision and motivation are perceived and enacted (Tschannen-Moran, 2014). Moreover, constructs like organizational trust, collective teacher efficacy, and transformational leadership were not included but may have significant explanatory power (Caprara, 1997; Goddard et al., 2015). Future research should consider integrating these additional constructs and employing multi-level modeling techniques to capture the nested nature of educational data. Comparative studies across provinces or countries could also provide valuable insights into contextual influences on supervision and teacher development (Korthagen, 2016). In conclusion, this study advances the understanding of how academic supervision and achievement motivation interact to influence teacher competence. By validating a statistically and theoretically coherent model, it offers a roadmap for enhancing professional development strategies in education systems that aim to empower teachers and improve instructional quality.

Conclusion

Teacher quality plays a vital role in national development by significantly influencing student learning outcomes This study is grounded in the rationale that improving educational outcomes in marginalized areas requires not only structural interventions but also personal factors, such as teacher motivation. However, the role of achievement motivation as a moderating variable in this relationship remains underexplored. This study underscores the significant role of academic supervision and achievement motivation in enhancing teacher competence, presenting robust evidence of their interplay and impact. The evaluation of the measurement model confirms the validity and reliability of the constructs, with most indicators demonstrating substantial contributions to their respective variables. Academic supervision, characterized by supportive and developmental feedback, directly and positively influences teacher competence while also fostering achievement motivation. This motivational boost further mediates the relationship between supervision and competence, amplifying its effects.

The structural model validates these relationships, with significant path coefficients aligning with established theories such as self-determination and social-cognitive theory. From a practical perspective, the findings highlight the need for schools to implement comprehensive supervision programs that address both technical and psychological aspects, fostering an empowering environment for professional growth. The results also offer theoretical contributions by integrating motivational constructs into the supervisory framework, advancing our understanding of teacher development in educational contexts. However, this study has limitations, including a restricted sample size and limited generalizability beyond the examined educational setting. These constraints suggest caution in extending the findings to other regions or education systems with different socio-cultural characteristics.

This study is limited by its sample size and geographic scope, focusing only on two regions in Eastern Indonesia. Future research should expand the sample to include broader educational contexts, enhancing the generalizability of these findings, and to explore additional moderating factors such as leadership style, teacher self-efficacy, and institutional support. Furthermore, longitudinal studies could provide deeper insights into the sustained impact of academic supervision and motivation on teacher competence over time. It is recommended that future teacher development programs include motivational interventions such as goal-setting workshops and peer mentoring. Further, supervision models should be differentiated based on individual teacher needs and motivation levels to maximize their effectiveness.

Acknowledgments. Authors would like to express our heartfelt gratitude to Universitas Cenderawasih, Faculty of Teacher Training and Education, for their invaluable support and trust. We are sincerely thankful for the research funding provided under the Research Contract Agreement Number: 061/UNCEN-FKIP/PG/2024.

References

Akbaş, O., & Başaran, O. (2023). The enhancement of prospective teachers' competence and awareness in the Understanding by Design. *Participatory Educational Research*, *10*(5), 214-232. https://doi.org/10.17275/per.23.83.10.5

Arjanto, P. (2025). Addressing challenges and opportunities for educational supervisors in dental training. *British Dental Journal*, *238*(6), 366-366. https://doi.org/10.1038/s41415-025-8569-7

Bachtiar, M., Iskandar, I., & Fauzi, A. (2024). Exploring the Impact of Educational Administration Knowledge and Work Motivation on the Leadership Effectiveness of Madrasah Heads. *AL-ISHLAH: Jurnal Pendidikan*, *16*(2), 2838-2850. https://doi.org/10.35445/alishlah.v16i2.4629

Byrne, B. M. (2016). *Structural Equation Modeling With AMOS: Basic Concepts, Applications, and Programming* (3rd ed.). Routlege. https://doi.org/10.4324/9781315757421

Caprara, G. V. (1997). *Bandura*. FrancoAngeli. https://search.worldcat.org/title/1498838042

Chong, S. T., Abd Rahman, A. Z., & Arjanto, P. (2024). English Language Educators' Motivational Strategies: Towards Career Advancement. In M. F. b. Romlie, S. H. Shaikh Ali, Z. B. Hari, & M. C. Leow, *Proceedings of the International Conference on*

Advancing and Redesigning Education 2023 Singapore.https://doi.org/10.1007/978-981-97-4507-4_22

Cochran, W. G. (1977). *Sampling Techniques* (3rd ed.). Wiley. https://www.wiley.com/en-us/Sampling+Techniques%2C+3rd+Edition-p-9780471162407

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). Sage Publications. https://study.sagepub.com/creswellrd4e

Criss, C. J., Konrad, M., Alber-Morgan, S. R., & Brock, M. E. (2024). A systematic review of goal setting and performance feedback to improve teacher practice. *Journal of Behavioral Education*, *33*(2), 275-296. https://doi.org/10.1007/s10864-022-09494-1

Deci, E. L., & Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*, *11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01

DeJaeghere, J., Dao, V., & Nguyen, T. (2024). Education systems change: cultural beliefs and practices that support and inhibit deep learning in Vietnam. *Journal of Educational Change*, *25*(3), 555-577. https://doi.org/10.1007/s10833-024-09505-0

Eden, C. A., Chisom, O. N., & Adeniyi, I. S. (2024). Cultural competence in education: strategies for fostering inclusivity and diversity awareness. *International Journal of Applied Research in Social Sciences*, *6*(3), 383-392. https://doi.org/10.51594/ijarss.v6i3.895

Fahmi, C. N., Ar, M., Nurliza, E., & Usman, N. (2019). The implementation of academic supervision in improving teacher competency at primary school. *JIP-The Indonesian Journal of the Social Sciences*, *7*(1), 181-194. https://doi.org/10.26811/peuradeun.v7i1.202

Fendi, H., Hanafi, I., Monia, F. A., Taufiq, M. A., & Putri, R. E. (2021). Online-based academic supervision during the Covid-19 pandemic. Journal of Physics: Conference Series, https://doi.org/10.1088/1742-6596/1779/1/012027

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, *18*(1), 39-50. https://doi.org/10.1177/002224378101800104

García-Garay, J., Andrade-Mayorga, O., & Lavados-Romo, P. (2024). Effects of the implementation of practical activities on achievement motivation in college students. *Investigación en Educación Médica*, *13*(52), 40-48. https://www.medigraphic.com/pdfs/invedumed/iem-2024/iem2452e.pdf

Goddard, R., Goddard, Y., Sook Kim, E., & Miller, R. (2015). A Theoretical and Empirical Analysis of the Roles of Instructional Leadership, Teacher Collaboration, and Collective Efficacy Beliefs in Support of Student Learning. *American Journal of Education*, *121*(4), 501-530. https://doi.org/10.1086/681925

Hadi, S., Imron, A., Wiyono, B. B., Gunawan, I., Abbas, A., & Perdana, D. B. (2021). Design and testing of teacher professional development models focusing on the optimization of teachers' teaching ability in the era of Asean Economic Communities and new normal. International Conference on Information Technology and Education (ICITE 2021), https://doi.org/10.2991/assehr.k.211210.042

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, *31*(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hallinger, P., & Heck, R. H. (2010). Collaborative leadership and school improvement: Understanding the impact on school capacity and student learning. *School leadership and management*, *30*(2), 95-110. https://doi.org/10.1080/13632431003663214

Han, J., & Yin, H. (2016). Teacher motivation: Definition, research development and implications for teachers. *Cogent Education*, *3*(1), 1217819. https://doi.org/10.1080/2331186X.2016.1217819

Hazi, H. M., & Rucinski, D. A. (2009). Teacher evaluation as a policy target for improved student learning: A fifty-state review of statute and regulatory action since NCLB. *Education policy analysis archives*, *17*, 5-5. https://doi.org/10.14507/epaa.v17n5.2009

He, Y. Q., & Tang, F. G. (2024). The impact of college students' achievement motivation on subjective well-being: Self-efficacy as a mediating variable. *Nurture*, *18*(2), 498-507. https://doi.org/10.55951/nurture.v18i2.657

Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Imtihansyah, R., Tomoliyus, T., Sukamti, E., Fauzi, F., Adi, T., Prayoga, H., Fitrianto, A., & Amalia, B. (2024). The Impact of Parental Support on Performance Achievement through Achievement Motivation in Elite Athletes in South Kalimantan, Indonesia: A Cross-Sectional Study with Structural Equation Modeling Analysis. *Retos*, *57*, 346-354. https://doi.org/10.47197/retos.v57.105996

Indra, R., Kustati, M., Saregar, A., Warnis, Nelmawarni, & Qismullah, Y. (2020). The Effect of Principals' Leadership towards Effective Learning at an Indonesian Secondary School. *European Journal of Educational Research*, *9*(3), 1063-1074. https://doi.org/10.12973/eu-jer.9.3.1063

Ingersoll, R. M., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of educational research*, *81*(2), 201-233. https://doi.org/10.3102/0034654311403323

Istiningsih, E., Suyatno, S., & Widodo, W. (2020). Academic supervision to improve teachers' readiness in utilizing information and communication technology in vocational high schools. *Universal Journal of Educational Research*, *8*(10), 4365-4373. https://doi.org/10.13189/ujer.2020.081002

Khong, T. D. H., & Saito, E. (2014). Challenges confronting teachers of English language learners. *Educational Review*, *66*(2), 210-225. https://doi.org/10.1080/00131911.2013.769425

Korthagen, F. (2016). Inconvenient truths about teacher learning: towards professional development 3.0. *Teachers and Teaching*, 1-19. https://doi.org/10.1080/13540602.2016.1211523

Kusanagi, K. N. (2022). Teacher Professional Development in Indonesia: Issues and Challenges. In *Lesson Study as Pedagogic Transfer: A Sociological Analysis* (pp. 67-80). Springer Nature Singapore. https://doi.org/10.1007/978-981-19-5928-8_4

Leithwood, K., & Sun, J. (2012). The nature and effects of transformational school leadership: A meta-analytic review of unpublished research. *Educational*

administration quarterly, *48*(3), 387-423. https://doi.org/10.1177/0013161X11436268

Lestari, N. S., Zainal, V. R., Chan, S., & Nawangsari, L. C. (2024). Impact of career development, job insecurity, and tech awareness on the quiet quitting of hospitality employees in Indonesia. *Problems and Perspectives in Management*, *22*(3), 427. https://doi.org/10.21511/ppm.22(3).2024.33

McClelland, D. C. (1985). *Human Motivation*. Cambridge University Press. https://doi.org/10.1017/CBO9781139878289

Muttaqin, I., Tursina, N., Sudrajat, A., Yuliza, U., Novianto, N., Ramadhan, F. F., & Kurnanto, M. E. (2023). The effect of academic supervision, managerial competence, and teacher empowerment on teacher performance: the mediating role of teacher commitment. *F1000Research*, *12*, 743. https://doi.org/10.12688/f1000research.128502.2

Nisa, K., Imron, A., Sobri, A., Hariyadi, R., Anggara, R., Risaldi, D., Azizah, F., Attamimi, M., & Nada Salym, A. (2024). Increasing teacher professionalism through the implementation of digital academic supervision in Indonesian secondary school: Personal learning networks as mediator. *Journal of Infrastructure, Policy and Development*, *8*(8). http://doi.org/10.24294/jipd.v8i8.6420

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory* (3rd ed.). McGraw-Hill. https://www.scribd.com/document/366667341/

Oluremi, O. F. (2013). Enhancing educational effectiveness in Nigeria through teacher's professional development. *European Scientific Journal*, *9*(28). https://eujournal.org/index.php/esj/article/view/1907

Polat, M. A., & Aliyev, R. (2024). Hope, childhood experiences, and achievement motivation in high school students: A mixed methods study. *Psychology in the Schools*, *61*(5), 1828-1847. https://doi.org/10.1002/pits.23140

Reeve, J. (2009). Why teachers adopt a controlling motivating style toward students and how they can become more autonomy supportive. *Educational psychologist*, *44*(3), 159-175. https://doi.org/10.1080/00461520903028990

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford publications. https://search.worldcat.org/title/1028598953

Santoso, A. M., & Yuzarion, Y. (2021). Analysis of learning agility in the performance of achievement teachers in Yogyakarta. *PEDAGOGIK: Jurnal Pendidikan*, *8*(1), 77-122. https://doi.org/10.33650/pjp.v8i1.2126

Sari, S. M. (2018). Interaksi metode inkuiri dan motivasi berprestasi siswa terhadap hasil belajar bahasa indonesia. Prosiding Seminar Nasional Pendidikan Dasar 2018, https://repository.bbg.ac.id/handle/754

Sari, S. M. (2024). The Impact of the Principal's Leadership on the Role of Teachers in Implementing School Literacy Activities. *Indonesian Journal of Instructional Media and Model*, *6*(1), 17-25. https://doi.org/10.32585/ijimm.v6i1.5252

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017). Partial Least Squares Structural Equation Modeling. In C. Homburg, M. Klarmann, & A. Vomberg (Eds.), *Handbook of Market Research* (pp. 1-40). Springer International Publishing. https://doi.org/10.1007/978-3-319-05542-8_15-1

Sergiovanni, T. J., & Starratt, R. J. (2002). *Supervision : a redefinition* (7th ed.). McGraw-Hill. https://search.worldcat.org/title/1078853486

Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard educational review*, *57*(1), 1-23. https://doi.org/10.17763/haer.57.1.j463w79r56455411

Skaalvik, E. M., & Skaalvik, S. (2017). Motivated for teaching? Associations with school goal structure, teacher self-efficacy, job satisfaction and emotional exhaustion. *Teaching and Teacher Education*, *67*, 152-160. https://doi.org/10.1016/j.tate.2017.06.006

Sugiyanto, S., LN, S. Y., Supriatna, M., & Budiamin, A. (2022). Implementation of 'Tut Wuri Handayani'in the perspective of practical pedagogic foundation. International Seminar on Innovative and Creative Guidance and Counseling Service (ICGCS 2021), https://doi.org/10.2991/assehr.k.220405.032

Sugiyono, D. (2013). *Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D*. Alfabeta. https://digilib.unigres.ac.id/?p=show_detail&id=43

Sugiyono, D. (2014). *Metode Penelitian Kunatitatif Kualitatif dan R&D*. Alfabeta. https://digilib.stekom.ac.id/assets/dokumen/ebook/feb_35efe6a47227d6031a75569c2f3f39d44fe2db43_1652079047.pdf

Sultan, F. M. M., Karuppannan, G., & Lestari, H. (2023). Exploring Prajnamitra Maitreya Buddhists School Pekanbaru: Do leadership, work environment, and organisational culture influence the teachers' competence and work performance? *Plos One*, *18*(5), e0282941. https://doi.org/10.1371/journal.pone.0282941

Supriyono. (2018). Integrated Participative Instructional Supervision Planning at Public Junior High Schools: A Multisite Case Study at Three Middle Schools in Blitar, East Java. *JARES (Journal of Academic Research and Sciences)*, *3*(1), 3. https://doi.org/10.35457/jares.v3i1.448

Suryani, L. (2023). Increasing Pedagogical Competence Through Optimization of Teachers' Academic Supervision at SMP Negeri 11 Dumai. *Primary: Jurnal Pendidikan Guru Sekolah Dasar*, *12*, 179. https://www.researchgate.net/publication/369595582

Tschannen-Moran, M. (2014). *Trust matters: Leadership for successful schools*. John Wiley & Sons.https://www.wiley.com/en-us/Trust+Matters%3A+Leadership+for+Successful+Schools%2C+2nd+Edition-p-9781118837955

Turkben, T., & Alptekin, E. (2023). Turkish teachers' competence in creating digital stories using Web 2.0 tools. *Milli Eğitim Dergisi*, *52*(238), 909-932. https://doi.org/10.37669/milliegitim.1090534

Van der Lans, R. M., Van de Grift, W. J., & van Veen, K. (2018). Developing an instrument for teacher feedback: using the rasch model to explore teachers' development of effective teaching strategies and behaviors. *The journal of experimental education*, *86*(2), 247-264. https://doi.org/10.1080/00220973.2016.1268086

Wulandari, T., & Rezeki, S. (2025). Analysis of TPACK Integration in the Preparation of Teaching Modules for Prospective Mathematics Education Teachers at the Islamic University of Riau. *Journal of Educational Sciences*, *9*(4), 2164-2176. https://doi.org/10.31258/jes.9.4.p.2164-2176

Zepeda, S. J. (2012). *Instructional Supervision: Applying Tools and Concepts* (3rd ed.). Routledge. https://doi.org/10.4324/9781315855523